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ENVIRONMENTAL PROTECTION  
AGENCY-REGION VII  
REGIONAL HEARING CLERK

UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION VII

IN THE MATTER OF: )  
RAILROAD AVENUE SUPERFUND )  
SITE - SOUTHERN PLUME, )  
WEST DES MOINES, IOWA )

Delavan, Inc. )  
Respondent )

U.S. EPA Region VII  
CERCLA  
Docket No. CERCLA-07-2003-0163

Proceeding Under Sections )  
104,106(a), 107 and 122 of the )  
Comprehensive Environmental Response, )  
Compensation, and Liability Act, as )  
amended, 42 U.S.C. §§ 9604, 9606(a), )  
9607 and 9622 )

**ADMINISTRATIVE ORDER ON CONSENT FOR REMOVAL ACTION AND  
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY**

## TABLE OF CONTENTS

I.	<u>JURISDICTION AND GENERAL PROVISIONS</u> .....	-1-
II.	<u>PARTIES BOUND</u> .....	-1-
III.	<u>DEFINITIONS</u> .....	-2-
IV.	<u>STATEMENT OF PURPOSE</u> .....	-4-
V.	<u>FINDINGS OF FACT</u> .....	-5-
	A. <u>Site Background</u> .....	-5-
	B. <u>Site History</u> .....	-5-
VI.	<u>CONCLUSIONS OF LAW AND DETERMINATIONS</u> .....	-7-
VII.	<u>ORDER</u> .....	-8-
	A. <u>Designation of Contractor, Project Coordinator, and On-Scene Coordinator</u> ...	-8-
	B. <u>Work to Be Performed: Removal Activities</u> .....	-9-
	Removal Site Evaluation Memorandum .....	-9-
	Removal Action .....	-10-
	C. <u>Work to Be Performed: Remedial Investigation/Feasibility Study (RI/FS)</u>	
	<u>Activities</u> .....	-11-
	a. Task I: Scoping .....	-12-
	b. Task II: Community Relations Plan .....	-13-
	c. Task III: Site Characterization .....	-13-
	d. Task IV: Site Risk Assessment Report .....	-13-
	e. Task V: Development and Screening of Alternatives .....	-14-
	f. Task VI: Detailed Analysis of Alternatives. ....	-14-
	D. <u>Health and Safety Plan</u> .....	-15-
	E. <u>Quality Assurance and Sampling</u> .....	-15-
	F. <u>Progress Reports and Meetings</u> .....	-16-
	G. <u>Access to Property and Information</u> .....	-16-
	H. <u>Review and Approval</u> .....	-17-
	I. <u>Record Retention, Documentation, Availability of Information</u> .....	-18-
	J. <u>Off-Site Shipments</u> .....	-19-
	K. <u>Compliance With Other Laws</u> .....	-19-
	L. <u>Emergency Response and Notification of Releases</u> .....	-19-
VIII.	<u>AUTHORITY OF THE EPA AND IDNR ON-SCENE COORDINATORS</u> .....	-20-

IX.	<u>REIMBURSEMENT OF COSTS</u>	-21-
X.	<u>DISPUTE RESOLUTION</u>	-22-
XI.	<u>FORCE MAJEURE</u>	-23-
XII.	<u>STIPULATED AND STATUTORY PENALTIES</u>	-24-
XIII.	<u>RESERVATION OF RIGHTS</u>	-25-
XIV.	<u>OTHER CLAIMS</u>	-27-
XV.	<u>COVENANT NOT TO SUE</u>	-27-
XVI.	<u>CONTRIBUTION PROTECTION</u>	-27-
XVII.	<u>INDEMNIFICATION</u>	-28-
XVIII.	<u>INSURANCE</u>	-28-
XIX.	<u>FINANCIAL ASSURANCE</u>	-29-
XX.	<u>MODIFICATIONS</u>	-29-
XXI.	<u>ADDITIONAL REMOVAL ACTION</u>	-30-
XXII.	<u>NOTICE OF COMPLETION</u>	-30-
XXIII.	<u>FINAL RI/FS, PROPOSED PLAN, PUBLIC COMMENT, RECORD OF DECISION, ADMINISTRATIVE RECORD</u>	-30-
XXIV.	<u>SEVERABILITY</u>	-31-
XXV.	<u>EFFECTIVE DATE</u>	-31-

## **I. JURISDICTION AND GENERAL PROVISIONS**

- 1) This Order is entered into by the EPA and Delavan, Inc., (hereinafter known as "Respondent" or "Delavan") in connection with the Railroad Avenue Superfund Site-Southern Plume located at 2250 Fuller Road in West Des Moines, Iowa ("Southern Plume" or the "Site"). This Order requires the Respondent to perform a removal site evaluation and, if necessary, conduct a time-critical removal action to abate an imminent and substantial endangerment to the public health, welfare or the environment that may be presented by the actual or threatened release of hazardous substances, pollutants, or contaminants at or from the Site. Further, this Order requires the Respondent to conduct the Remedial Investigation/Feasibility Study described herein to, among other things, determine the extent of the release of the hazardous substances, pollutants, or contaminants at or from the Site.
- 2) This Administrative Order on Consent ("Order") is issued pursuant to the authority vested in the President of the United States by sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622, as amended ("CERCLA"), and delegated to the Administrator of the United States Environmental Protection Agency ("EPA") by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the EPA Regional Administrators by EPA Delegation Nos. 14-14-A and 14-14-C and 14-14-D. This authority has been redelegated by the Regional Administrator to the Superfund Division Director.
- 3) EPA has notified the State of Iowa (the "State") of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a). EPA has provided the State a copy of this Order and notified the State that EPA will be the lead agency for enforcing the terms of this Order. EPA has communicated with the State and the State has agreed to be the lead agency for oversight of the Work performed by Respondent pursuant to this Order. Respondent agrees to negotiate a separate agreement with the State of Iowa to reimburse the State for costs related to the Southern Plume of the Site.
- 4) Respondent's participation in this Order shall not constitute or be construed as an admission of liability or of EPA's findings or determinations contained in this Order except in a proceeding to enforce the terms of this Order. Respondent agrees to comply with and be bound by the terms of this Order. Respondent further agrees that it will not contest the basis or validity of this Order or its terms.

## **II. PARTIES BOUND**

- 5) This Order applies to and is binding upon EPA and upon Respondent and Respondent's successors and assigns. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall not

alter Respondent's responsibilities under this Order.

- 6) Respondent shall ensure that its contractors, subcontractors, and representatives receive a copy of this Order and comply with this Order. Respondent shall be responsible for any noncompliance with this Order.

### III. DEFINITIONS

- 7) Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:
  - A. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq.
  - B. "Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.
  - C. "Effective Date" shall mean the date this Order is effective pursuant to Section XXV of this Order.
  - D. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.
  - E. "Feasibility Study" or "FS" shall mean a study undertaken to develop and evaluate options for remedial action.
  - F. "Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs on or after the Effective Date of this Order in reviewing or developing plans, reports and other items pursuant to this Order, verifying the Work, or otherwise implementing, overseeing, or enforcing this Order, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to this Site (including, but not limited to, attorneys fees and any monies paid to secure access and/or to secure institutional controls, including the amount of just compensation).
  - G. "IDNR" shall mean the Iowa Department of Natural Resources and any successor departments or agencies of the State.

- H. "Interest," shall mean interest at the rate specified for interest on investments of the Hazardous Substance Superfund established under Subchapter A of Chapter 98 of Title 26 of the U.S. Code, compounded on October 1 of each year, in accordance with 42 U.S.C. § 9607(a).
- I. "Matters Addressed" shall mean all Work performed and all payments made pursuant to this Order.
- J. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.
- K. "Operation and Maintenance" or "O & M" shall mean all activities required to maintain the effectiveness of the Removal Action as required under the Operation and Maintenance Plan approved or developed by IDNR pursuant to this Order.
- L. "Order" shall mean this Order and all appendices attached hereto. In the event of conflict between this Order and any appendix, this Order shall control.
- M. "Paragraph" shall mean a portion of this Order identified by an arabic numeral or an upper or lower case letter.
- N. "Parties" shall mean the United States and the Respondent.
- O. "Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States paid at or in connection with the Southern Plume of the Railroad Avenue Superfund Site prior to the Effective Date of this Order, plus Interest on all such costs which has accrued pursuant to 42 U.S.C. § 9607(a) through such date.
- P. "Remedial Investigation" or "RI" shall mean a process undertaken to determine the nature and extent of the problem presented by a release. The RI includes sampling and monitoring, as necessary, and includes the gathering of sufficient information to determine the necessity for remedial action and to support the evaluation of remedial alternatives.
- Q. "Removal Action" shall mean those activities, except for Operation and Maintenance and Remedial Investigation and Feasibility Study, to be undertaken by the Respondent to implement this Order and other plans approved by EPA or IDNR.

- R. "Removal Site Evaluation" shall mean an assessment and reporting of available information regarding hazardous substances, pollutants or contaminants at the Site to support, if necessary, the selection and implementation of a time-critical removal action to abate the threat to the West Des Moines public water supply.
- S. "Respondent" shall mean Delavan, Inc., and any successors or assigns.
- T. "Section" shall mean a portion of this Order identified by a roman numeral.
- U. "Site" for the purposes of this Order shall mean the southern plume of the Railroad Avenue Superfund Site, located at 2250 Fuller Road in West Des Moines, Iowa and depicted generally on the attached map referred to as Appendix A. The Site also encompasses all areas where pollutants, contaminants, and/or hazardous substances released from the Respondent's property at 2250 Fuller Road, West Des Moines, Iowa, have come to be located.
- V. "State" shall mean the State of Iowa.
- W. "United States" shall mean the United States of America, and any and all agencies and instrumentalities thereof.
- X. "Work" shall mean all activities Respondent is required to perform under this Order, except those required by Section VII.J. (Retention of Records).

#### IV. STATEMENT OF PURPOSE

- 8) In entering into this Administrative Order on Consent, the objectives of EPA and the Respondent are to evaluate the need for and, if necessary, implement, and complete a time-critical removal action to prevent exposure to humans of hazardous substances, pollutants, or contaminants identified in the West Des Moines public water supply wells and associated with the southern plume of the Site. The parties will also address measures, if necessary, to prevent the continued release of hazardous substances, pollutants, or contaminants to or toward West Des Moines public water supply wells.
- 9) Also, by entering into this Administrative Order on Consent, the objectives of EPA and the Respondent are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site or facility, by conducting a remedial investigation; (b) to determine and evaluate alternatives for remedial action (if any) to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the site or facility, by conducting a feasibility study; and (c) to recover response and oversight costs incurred by EPA.

- 10) The activities conducted under this Administrative Order on Consent are subject to approval by EPA and/or IDNR and shall provide all appropriate necessary information for the RI/FS and for a record of decision that is consistent with CERCLA and the National Contingency Plan (NCP), 40 C.F.R. Part 300. The activities conducted under this Order shall be conducted in compliance with all applicable EPA guidances, policies, and procedures.

## V. FINDINGS OF FACT

### A. Site Background:

- 11) The Railroad Avenue site consists of the area that contains the 22 West Des Moines municipal water supply wells (WDMW) that historically or currently supply water to the residents of West Des Moines, Iowa, the area of observed groundwater contamination, and the potential source areas of the contamination (Appendix A).
- 12) West Des Moines, a suburb of Des Moines, Iowa, is located in southwest Polk County in south-central Iowa. The site occupies portions of Sections 10, 11, 14, 15, 16, 21, and 22, T78N, R25W (USGS 1976).
- 13) Eight of West Des Moines' 22 municipal wells have been shown during one or more sampling events to be contaminated with one or more of the following: tetrachloroethylene (PCE), trichloroethylene (TCE), cis-1,2-dichloroethylene (DCE), and benzene (E&E 2000). Five municipal wells have been taken off-line as a result of the chlorinated volatile organic compounds (VOC) contamination: WDMW-6, -7, -12, -13, and -21.

### B. Site History

- 14) The site was first identified in 1993, when a routine water distribution sample collected by the City of West Des Moines was found to contain cis-1,2-DCE at 1.2  $\mu\text{g/L}$ . Subsequent sampling of WDMW-13 detected cis-1,2-DCE at significantly higher concentrations than the water distribution sample.
- 15) The contamination in the West Des Moines municipal wells was formally brought to the attention of the U.S. EPA after a site investigation was conducted by the Iowa Department of Natural Resources (IDNR) at the former Stearns Automotive site in 1996.
- 16) The EPA performed a Preliminary Assessment/Site Investigation (PA/SI) under the Superfund Technical Assessment and Response Team (START) program in October 1997. Two groundwater contaminant plumes were identified near municipal wells WDMW-12 and WDMW-13 during the sampling. This plume is identified herein as the Northern Plume.
- 17) An Expanded Site Investigation (ESI) was conducted by EPA in November and December



1999. During the ESI, groundwater samples were collected from 56 direct-push sample locations, 11 monitoring wells, and 20 water supply wells. These samples were analyzed for solvent related contaminants and benzene. In addition, several water and sediment samples were collected from selected sanitary sewer lines and from lakes adjacent to the contaminant plumes. Samples were collected to confirm the results of the PA/SI and to investigate additional areas. Results from the ESI also identified another plume, consisting mainly of trichloroethylene (TCE), near WDMW wells 19, 20, and 21. This plume is identified as the Southern Plume herein and based upon available information is separate and distinct from the Northern Plume. Results also indicated a need for further investigation east of the Northern Plume and south of the Southern Plume to further delineate the plume areas and to locate any other potential source areas.

- 18) In December 2000, IDNR performed groundwater sampling at three locations. Direct-push sampling techniques were used to collect groundwater samples at the water table and at equipment refusal at each of the three locations. The samples confirmed results of the ESI.
- 19) Phase 1 Remedial Investigation efforts were performed by EPA in April and May 2001. Phase 2 of the RI was performed in August 2001. Fifty-one primary groundwater samples were collected using direct-push sampling techniques from 27 sample locations. Groundwater samples were collected from 8 probe locations in the south area and from 19 probe locations in the north area. Results confirmed the extent of TCE in the south area and the extent of cis-1,2-DCE and vinyl chloride in the north area. Results of the Phase 1 and Phase 2 RI indicated that the Southern Plume and Northern Plume have separate and distinct source areas.
- 20) In January and May 2002, IDNR performed additional groundwater sampling in the area of the Southern Plume, and results from this effort further defined the extent of the Southern Plume.
- 21) Respondent was incorporated as a Delaware corporation on December 12, 1997. Respondent was previously incorporated as an Iowa corporation on February 27, 1946. From 1969 until present Respondent operated a facility where Respondent heat treated or "brazed" metal parts at 2250 Fuller Road, West Des Moines, Iowa. At this facility some metal parts were cleaned using a vapor degreaser prior to heat treatment. The solvents used in the vapor degreaser have varied over time but have included tetrachloroethylene, 1,1,1-trichloroethane, and trichloroethylene.
- 22) As part of its operations at the 2250 Fuller Road facility, Respondent operated a used-solvent underground storage tank. This tank was removed by Respondent prior to 1986.
- 23) Between 1999 and 2000, Respondent sampled groundwater and soil vapor around and down gradient of the former location of the underground storage tank for the presence of

chlorinated solvents. Results from these efforts indicate that the underground storage tank was the likely source of the Southern Plume of contamination impacting the West Des Moines water-supply wells.

- 24) PCE, TCE, DCE, VC, and toluene are hazardous substances and are potentially harmful to human health.

## **VI. CONCLUSIONS OF LAW AND DETERMINATIONS**

Based on the Findings of Fact set forth above, and the Administrative Record supporting this removal action, EPA has determined that:

- 25) The Southern plume of the Railroad Avenue Superfund Site is a "facility" as defined by section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
- 26) The contaminants found at the Site, as identified in the Findings of Fact above, include "hazardous substance(s)" as defined by section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
- 27) Respondent is a "person" as defined by section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- 28) Respondent may be liable under section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

A. Respondent is the "owner" and/or "operator" of the facility, as defined by section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

B. Respondent was the "owner" and/or "operator" of the facility at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).

- 29) The conditions described in the Findings of Fact above constitute an actual or threatened "release" of a hazardous substance from the facility as defined by sections 101(22) of CERCLA, 42 U.S.C. § 9601(22).
- 30) The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of section 106(a) of CERCLA, 42 U.S.C. § 9606(a).
- 31) The response actions required by this Order are necessary to protect the public health, welfare, or the environment, and are not inconsistent with the NCP or CERCLA.

## VII. ORDER

- 32) Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for this Site, it is hereby ordered and agreed that Respondent shall comply with the following provisions, including but not limited to all attachments to this Order, and all documents incorporated by reference into this Order, and perform the following actions:
- A. Designation of Contractor, Project Coordinator, and On-Scene Coordinator
- 33) Respondent shall retain one or more contractors to perform the Work and shall notify IDNR of the name(s) and qualifications of such contractor(s) within ten (10) days of the Effective Date. Respondent shall also notify IDNR of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least 10 days prior to commencement of such Work. IDNR shall have the right, for cause, to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If IDNR disapproves of a selected contractor, IDNR shall provide written notice to Respondent that shall discuss the reasons for disapproval. Upon disapproval, Respondent shall retain a different contractor and shall notify IDNR of that contractor's name and qualifications within 14 days of IDNR's disapproval. The proposed contractor must demonstrate compliance with ANSI/ASQC E-4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B0-1/002), or equivalent documentation as required by IDNR.
- 34) Within 21 days after the Effective Date, Respondent shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondent required by this Order and shall submit to EPA and IDNR the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site work. IDNR shall have the right, for cause, to disapprove of the designated Project Coordinator. If IDNR disapproves of the designated Project Coordinator, IDNR shall provide written notice to Respondent that shall discuss the reasons for disapproval. Upon disapproval, Respondent shall retain a different Project Coordinator and shall notify IDNR of that person's name, address, telephone number, and qualifications within 14 days following IDNR's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from IDNR relating to this Order shall constitute receipt by Respondent.
- 35) EPA retains the right to disapprove of any Project Coordinator and/or contractor(s) named by the Respondent. Receipt by Respondent's Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by the Respondent.

- 36) IDNR has designated Robert Drustrup, Environmental Engineer Senior of the Contaminated Sites Section of the Iowa Department of Natural Resources as its On Scene Coordinator ("IDNR OSC) for oversight of the Work conducted by Respondent pursuant to this Order. Except as otherwise provided in this Order, Respondent shall direct all submissions required by this Order to the IDNR OSC at Wallace Building, 502 East Ninth Street, Des Moines, Iowa 50319-0034. Submissions shall be by certified or express mail.
- 37) EPA has designated Robert Stewart, Environmental Engineer, of the EPA Region VII Iowa/Nebraska Remedial Branch, Superfund Division as its Remedial Project Manager ("RPM"). Respondent shall direct a copy of all submissions required by this Order to the RPM at the following: U.S. Environmental Protection Agency, 901 North 5<sup>th</sup> Street, Kansas City, Kansas 66101
- 38) EPA, IDNR, and Respondent shall have the right, subject to Paragraph 35, to change their respective designated OSC, RPM, or Project Coordinator. Respondent shall notify IDNR 14 days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

**B. Work to Be Performed: Removal Activities**

Respondent shall perform, at a minimum, all actions necessary to implement the Work described below and contained within the Statement of Work. The actions to be implemented generally include, but are not limited to, the following:

**39) Removal Site Evaluation Memorandum**

a. Respondent shall within 45 days of the effective date of this Order prepare and submit for EPA review and approval a Removal Site Evaluation Memorandum (RSEM) that substantially conforms with the requirements of 40 C.F.R. § 300.410, the SOW and any applicable EPA guidance. The RSEM shall incorporate and evaluate all data generated to date at the Southern Plume of the Site that was gathered using proper data quality procedures.

b. As a part of the RSEM, Respondent shall explore and evaluate time-critical response actions that may be necessary to timely address the threat posed by the release of hazardous substances, contaminants, or pollutants at or from Respondent's facility. Respondent shall address in the RSEM a proposal for post-removal site control consistent with Section 300.415(f) of the NCP and OSWER Directive No. 9360.2-02.

c. After reviewing the RSEM, EPA will determine the appropriate extent of time-critical removal action to be taken in response to the release. Based upon the Removal Site Evaluation and the current Site conditions, EPA will determine if a time-critical removal action is appropriate. EPA will issue, if necessary, a decision document that determines the type of removal action necessary to abate, prevent, minimize, stabilize, mitigate, or eliminate the threat to public health, welfare, or the environment posed by the release from Respondent's facility.

EPA's determination that a time-critical removal action is necessary shall not be subject to dispute resolution nor give rise to any right to judicial review except as set forth in section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

#### 40) **Removal Action**

##### a. Work Plan and Implementation.

i. Within forty-five (45) days after EPA issues the decision document as discussed in Paragraph 39, Respondent shall submit to IDNR for approval a draft Removal Work Plan for performing the removal action described in EPA's decision document. The draft Removal Work Plan shall provide a description of, and an expeditious schedule for, the actions required by this Order. Respondent shall prepare a Quality Assurance Project Plan ("QAPP") as part of the Removal Work Plan. The QAPP should be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001), and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998). The Removal Work Plan shall also address post-removal site control consistent with Section 300.415(f) of the NCP and OSWER Directive No. 9360.2-02.

ii. IDNR may approve, disapprove, require revisions to, or modify the draft Removal Work Plan in whole or in part. If IDNR requires revisions, Respondent shall submit a revised draft Removal Work Plan within twenty-one (21) days of receipt of IDNR's notification of the required revisions. Respondent shall implement the Removal Work Plan as approved in writing by IDNR in accordance with the schedule approved by IDNR. Once approved, or approved with modifications, the Removal Work Plan, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Order.

iii. Respondent shall not commence any Work except in conformance with the terms of this Order. Respondent shall not commence implementation of the Removal Work Plan developed hereunder until receiving written IDNR approval.

##### b. Reporting.

i. Respondent shall submit two (2) copies of all plans, reports or other submissions required by this Order, the Statement of Work, or any approved work plan to IDNR and 1 copy to the EPA RPM. Upon request by IDNR or EPA, Respondent shall submit such documents in electronic form. All submissions shall be subject to the review and approval procedures described by this Order.

ii. Final Removal Report. Within sixty (60) days after completion of all Work required by the Removal Action portion of this Order, Respondent shall submit for IDNR review and approval a final removal report summarizing the actions taken to comply with the removal portion of this Order. The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports." The final report shall include a good faith

estimate of total costs or a statement of actual costs incurred in complying with the Order and a detailed description of equipment installed during the removal action and a demonstration of effectiveness. If materials are removed off-Site or handled on-Site, the final report shall include a listing of quantities and types of materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits), and documentation of all post-removal site control arrangements. The final removal report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

"Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

C. Work to Be Performed: Remedial Investigation/Feasibility Study (RI/FS) Activities

Respondent shall perform, at a minimum, the following Remedial Investigation/Feasibility Study:

- 41) Respondent shall complete a Remedial Investigation/Feasibility Study (RI/FS) in accordance with National Contingency Plan (NCP) as published in the Federal Register, Volume 55, Number 46, dated March 8, 1990, Rules and Regulations, Subparagraph 300.430 and the EPA Guidance for Conducting Remedial Investigations and Feasibility Studies, dated October 1988.
- 42) EPA recognizes that some of this investigation has been accomplished at the Southern Plume. Any such work previously performed using proper data quality procedures may be used to supplement additional work and may be consolidated into the required documents.
- 43) The objective of the RI/FS will be to investigate the groundwater contamination found at the Southern Plume and determine the extent of both vertical and horizontal contamination and evaluate reasonable alternatives to address the contamination. Emphasis will be placed on flow direction and gradient in order to protect any downgradient drinking water sources.
- 44) Respondent shall conduct RI/FS activities and submit deliverables as provided by the attached RI/FS Statement of Work, which is incorporated by reference, for the development of the RI/FS. All such work shall be conducted in accordance with CERCLA, the NCP, and EPA guidance including, but not limited to, the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under

CERCLA" (OSWER Directive # 9355.3-01), "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05) and guidances referenced therein, and guidances referenced in the Statement of Work, as may be amended or modified by EPA or IDNR.

- 45) The general activities that Respondent is required to perform are identified below. The tasks that Respondent must perform are described more fully in the Statement of Work and guidances. The activities and deliverables identified below shall be developed as provisions in the RI/FS Work Plan, and shall be submitted to IDNR as provided in the Statement of Work and the approved RI/FS Work Plan. All work performed under this Consent Order shall be in accordance with the schedules herein, and in full accordance with the standards, specifications, and other requirements of the RI/FS Work Plan, as initially approved or modified by IDNR, and as may be amended or modified by IDNR from time to time.

a. Task I: Scoping. Respondent shall conduct scoping activities as described in the attached Statement of Work and referenced guidances. Following approval or modification by IDNR, the RI/FS Work Plan and the sampling and analysis plan shall be incorporated by reference herein. At the conclusion of the project planning phase, Respondent shall submit within sixty (60) days of the Effective Date of this Order to IDNR for review and approval an RI/FS Work Plan. The RI/FS Work Plan shall include the following:

1. Sampling and Analysis Plan. This plan shall consist of a field sampling plan (FSP), a quality assurance project plan (QAPP), and a sampling and analysis plan, as described in the Statement of Work and guidances.
2. Investigation Derived Waste Plan (IDWP) and a project schedule, as described in the Statement of Work and guidances.
3. Modeling of Site Characteristics: Where Respondent proposes that modeling is appropriate, the RI/FS Work Plan will address modeling of site characteristics.
4. Treatability Studies: Respondent shall conduct treatability studies, except where Respondent can demonstrate to IDNR's satisfaction that they are not needed. Major components of the treatability studies include determination of the need for and scope of studies, the design of the studies, and the completion of the studies, as described in the Statement of Work. During treatability studies, Respondent shall provide IDNR with the following information:
  - i. Identification of Candidate Technologies Memorandum. This information shall be included in the RI/FS Work Plan.

- ii. Treatability Testing Statement of Work. If IDNR determines that treatability testing is required, within seventy-five (75) days thereafter, Respondent shall submit for IDNR review and comment a treatability testing statement of work. This requirement may be also addressed in the final RI/FS Work Plan, instead of as a separate submittal.
  - iii. Treatability Testing Work Plan. Within forty-five (45) days of approval of the treatability testing statement of work, Respondent shall submit for IDNR review and approval a treatability testing work plan, including a schedule.
  - iv. Treatability Study Sampling and Analysis Plan. Within forty-five (45) days of the identification of the need for a separate or revised QAPP or FSP, Respondent shall submit for IDNR review and approval a treatability study sampling and analysis plan.
  - v. Treatability Study Site Health and Safety Plan. Within forty-five (45) days of the identification of the need for a revised health and safety plan, Respondent shall submit for IDNR review and comment a treatability study site health and safety plan.
  - vi. Treatability Study Evaluation Report. Within thirty (30) days of completion of any treatability testing, Respondent shall submit for IDNR review and approval a treatability study evaluation report as provided in the Statement of Work and work plan.
- b. Task II: Community Relations Plan. IDNR will prepare a community relations plan, in accordance with EPA guidance and the NCP. Respondent shall provide information supporting IDNR's community relations programs within twenty (20) days of request of data.
- c. Task III: Site Characterization. Following IDNR approval or modification of the RI/FS Work Plan and sampling and analysis plan, Respondent shall implement the provisions of these plans to characterize the site. Respondent shall complete site characterization according to the schedule in the approved RI/FS Work Plan. During site characterization, Respondent shall submit, for review and comment, a draft Remedial Investigation Report to IDNR in accordance with the schedule in the approved RI/FS Work Plan.
- d. Task IV: Site Risk Assessment Report. The IDNR will prepare a Site Risk Assessment, and will provide an opportunity for review and comment by the Respondent before it is finalized. EPA Risk Assessment Guidance for Superfund, Parts A through D shall be followed.



e. Task V: Development and Screening of Alternatives. Respondent shall develop an appropriate range of remedial action options that will be evaluated through the development and screening of alternatives, as provided in the Statement of Work and RI/FS Work Plan. During the development and screening of alternatives, Respondent shall provide IDNR with the following:

1. Memorandum on Remedial Action Objectives and the Development and Preliminary Screening of Alternatives. Within forty-five (45) days of receipt of IDNR's approval of risk assessment, Respondent shall submit for IDNR review and comment a memorandum on remedial action objectives. Respondent shall also include in this memorandum a discussion summarizing the development and screening of remedial alternatives, including an alternatives array document as described in the Statement of Work.

2. Within two weeks of submitting the Memorandum on Remedial Action Objectives and the Development and Preliminary Screening of Alternatives, Respondent shall make a presentation to IDNR and EPA during which Respondent shall summarize the findings of the remedial investigation and remedial action objectives, and present the results of the nine criteria evaluation and comparative analysis, as described in the Statement of Work. The decisions from this meeting will be recorded in a memorandum by Respondent and submitted to IDNR and EPA.

f. Task VI: Detailed Analysis of Alternatives. Respondent shall conduct a detailed analysis of remedial alternatives, as described in the Statement of Work and RI/FS Work Plan. Following the detailed analysis of alternatives, Respondent shall provide IDNR with the following deliverable:

1. Draft RI/FS Report. Within forty-five (45) days of the presentation described in 45)e.2, above, to EPA and IDNR, Respondent shall submit for IDNR review and approval a Draft RI/FS Report which reflects the findings in an approved risk assessment, a discussion summarizing the results of the comparative analysis performed between the remedial alternatives, and the requirements of Table 6-5 of the RI/FS Guidance for report content and format. The report as amended after IDNR comment, and the Administrative Record, shall provide the basis for the proposed plan under CERCLA Sections 113(k) and 117(a) by EPA, and shall document the development and analysis of remedial alternatives.

46) Respondent shall not proceed further with any subsequent activities or tasks until receiving IDNR approval for the following deliverables: RI/FS Work Plan, draft RI/FS Report, and treatability testing work plan.

47) Upon receipt of the Final RI/FS report, IDNR will evaluate, as necessary, the estimates of

the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed.

- 48) For all remaining deliverables not enumerated above in paragraph 46, Respondent shall proceed with all subsequent tasks, activities and deliverables without awaiting IDNR approval on the submitted deliverable. EPA reserves the right, for cause, to stop Respondent from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the RI/FS.
- 49) In the event that EPA takes over some of the tasks, but not the preparation of the RI/FS, Respondent shall incorporate and integrate information supplied by EPA into the RI and FS reports.

D. Health and Safety Plan

- 50) Within sixty (60) days after the Effective Date of this Order, the Respondent shall submit for IDNR review and comment a plan that ensures the protection of the public health and safety during performance of Work under this Order. This plan shall be prepared in accordance with EPA's current Standard Operating Safety Guide, dated November 1984, and updated July 1988. If the guide is updated while this Order is in effect, then the Health and Safety Plan shall be updated to reflect changes in the guidance. In addition, the plan shall comply with all current applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 CFR Part 1910. Respondent shall incorporate all changes to the plan recommended by IDNR, and implement the plan during the pendency of the removal action and the RI/FS.

E. Quality Assurance and Sampling

- 51) All sampling and analyses performed pursuant to this Order shall conform to IDNR direction, approval, and EPA guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondent shall follow the following documents, as appropriate, as guidance for QA/QC and sampling: "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures," OSWER Directive Number 9360.4-01; "Environmental Response Team Standard Operating Procedures," OSWER Directive Numbers 9360.4-02 through 9360.4-08; and the representative Sampling Guidance for soil, air, ecology, waste, and water as this information becomes finalized and available.
- 52) Upon request by IDNR, Respondent shall have such a laboratory analyze samples submitted by IDNR for quality-assurance monitoring. Respondent shall provide to IDNR the quality assurance/quality control procedures followed by all sampling teams and

laboratories performing data collection and/or analysis.

- 53) Upon request by IDNR, Respondent shall allow IDNR or its authorized representatives to take split and/or duplicate samples of any samples collected by Respondent while performing work under this Order. Respondent shall notify IDNR not less than ten (10) days in advance of any sample collection activity. IDNR shall have the right to take any additional samples that it deems necessary.

F. Progress Reports and Meetings

- 54) Respondent shall submit a written progress report to IDNR concerning actions undertaken pursuant to this Order every 30th day after the Effective Date of this Order until termination of this Order, unless otherwise directed by the IDNR OSC in writing. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period (in electronic format), and the developments anticipated during the next two (2) reporting periods, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.
- 55) Respondent shall, at least thirty (30) days prior to the conveyance of any interest in real property at the Site, give written notice that the property is subject to this Order to the transferee and written notice to EPA and IDNR of the proposed conveyance, including the name and address of the transferee. Respondent agrees to require that its successor comply with the immediately preceding sentence and the Access to Property and Information requirements of this Order.
- 56) Respondent shall make presentations at, and participate in, meetings at the request of EPA or IDNR during the initiation, conduct, and completion of the Work. In addition to the discussion of the technical aspects of the Work, topics will include anticipated problems or new issues. Meetings will be scheduled at a time mutually agreeable to EPA, IDNR and Respondent.

G. Access to Property and Information

- 57) Respondent shall submit to IDNR, upon receipt, the results of all sampling or tests and all other data generated by Respondent or their contractor(s), or on the Respondent's behalf during implementation of this Order.
- 58) Respondent shall provide, and/or obtain access to the Site and off-site areas to which access is necessary to implement this Order, and provide access to all records and documentation related to the conditions at the Site and the actions conducted pursuant to this Order. Such access shall be provided to EPA employees, contractors, agents, consultants, designees, representatives, and State of Iowa representatives. These

individuals shall be permitted to move freely at the Site and appropriate off-site areas in order to conduct actions which EPA or IDNR determine to be necessary.

- 59) Where action under this Order is to be performed in areas owned by or in possession of someone other than Respondent, Respondent shall use its best efforts to obtain all necessary access agreements within forty-five (45) days after the Effective Date of this Order, or as otherwise specified in writing by the IDNR OSC.
- 60) For purposes of this Order, "best efforts" includes the following: agreeing, upon request, to provide splits or duplicates of all samples collected on the property; and agreeing, upon request, to provide results of all analyses of samples collected on the property; and providing reasonable compensation to any property owner from whom access is sought. Any such access agreements shall be incorporated by reference into this Order.
- 61) Respondent shall immediately notify IDNR if after using its best efforts it is unable to obtain such agreements. Respondent shall describe in writing its efforts to obtain access. IDNR or EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA or IDNR deem appropriate. Respondent shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access.

#### H. Review and Approval

- 62) The following procedure will apply to the review and approval of all documents submitted to IDNR or EPA, as appropriate, for review and approval pursuant to the requirements of this Order. The reviewing agency will review each such document and notify Respondent, in writing, as to its approval or disapproval thereof. In the event the reviewing agency does not approve any such document, the reviewing agency will provide a written statement as to the basis of the disapproval. Within twenty (20) business days of receipt of the comments, or such other time period as agreed to by Respondent and the reviewing agency, Respondent shall revise any document not approved by addressing written comments and resubmit it to IDNR or EPA. Revised submittals are subject to approval, approval with conditions, disapproval or disapproval with modifications by IDNR or EPA. Subject to dispute resolution, the reviewing agency will make the final determination as to whether the document submitted by Respondent is in compliance with the requirements of this Order. At that time when the reviewing agency determines that the report is in compliance with the requirements of this Order, the reviewing agency will transmit to Respondent a written statement to that effect. Disapproval upon resubmission due to a material defect shall be considered a violation of the Order.
- 63) EPA reserves the right to comment on, modify and direct changes for all documents submitted to IDNR for review and approval. At EPA's discretion, Respondent must fully correct all deficiencies and incorporate and integrate all information and comments

supplied by the EPA.

- 64) Neither failure of IDNR or EPA to expressly approve or disapprove of Respondent's submissions within a specified time period(s), nor the absence of comments, shall be construed as approval by IDNR or EPA. Whether or not IDNR or EPA gives express approval for Respondent's deliverables, Respondent is responsible for preparing deliverables acceptable to IDNR and EPA.
- 65) In the event that Respondent amends or revises a report, plan or other submittal upon receipt of IDNR or EPA comments, if the reviewing agency subsequently disapproves of the revised submittal, or if subsequent submittals do not fully reflect directions for changes, EPA retains the right to seek stipulated or statutory penalties; perform its own studies, complete the Work (or any portion of the Work) under CERCLA and the NCP, and seek reimbursement from the Respondent for its costs; and/or seek any other appropriate relief.
- 66) Approved documents shall be deemed incorporated into and made part of this Order. Prior to written approval, no work plan, report, specification, or schedule shall be construed as approved and final. Oral advice, suggestions, or comments given by EPA or IDNR representatives will not constitute an official approval, nor shall any oral approval or oral assurance of approval be considered binding.

I. Record Retention, Documentation, Availability of Information

- 67) Respondent shall preserve all documents and information relating to work performed under this Order, or relating to the hazardous substances found on or released from the Site, for ten (10) years following completion of the response actions required by this Order. At the end of this ten (10) year period and thirty (30) days before any document or information is destroyed, Respondent shall notify EPA and IDNR that such documents and information are available to EPA or IDNR for inspection, and upon request, shall provide the originals or copies of such documents and information to EPA or IDNR. In addition, Respondent shall provide documents and information retained under this section at any time before expiration of the ten (10) year period at the written request of EPA or IDNR.
- 68) Respondent may assert a business confidentiality claim pursuant to 40 CFR § 2.203(b) with respect to part or all of any information submitted to EPA pursuant to this Order, provided such claim is allowed by section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7). Analytical and other data specified in section 104(e)(7)(F) of CERCLA shall not be claimed as confidential by the Respondent. EPA shall disclose information covered by a business confidentiality claim only to the extent permitted by, and by means of the procedures set forth at, 40 CFR Part 2, Subpart B. If no such claim accompanies the information when it is received by EPA, EPA may make it available to the public without

further notice to Respondent.

- 69) Respondent shall maintain a running log of privileged documents on a document-by-document basis, containing the date, author(s), addressee(s), subject, the privilege or grounds claimed (e.g., attorney work product, attorney-client), and the factual basis for assertion of the privilege. Respondent shall keep the "privilege log" on file and available for inspection. EPA may at any time challenge claims of privilege.

J. Off-Site Shipments

- 70) All hazardous substances, pollutants or contaminants removed off-site pursuant to this Order for treatment, storage, or disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by EPA, 42 U.S.C. § 9621(d)(3), and the following rule: "Amendment to the National Oil and Hazardous Substances Pollution Contingency Plan; Procedures for Planning and Implementing Off-Site Response Actions: Final Rule" 58 Fed. Reg. 49,200 (September 22, 1993) codified at 40 C.F.R. § 300.440. Regional Offices will provide information on the acceptability of a facility under section 121(d)(3) of CERCLA and the above rule.
- 71) Unless impracticable, prior notification of out-of-state waste shipments should be given consistent with OSWER Directive 9330.2-07.

K. Compliance With Other Laws

- 72) Respondent shall perform all actions required pursuant to this Order in accordance with all applicable local; state; and federal laws and regulations except as provided in CERCLA section 121(e) and 40 CFR section 300.415(i). In accordance with 40 CFR section 300.415(i), all on-site actions required pursuant to this Order shall, to the extent practicable, as determined by IDNR, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws. (See "The Superfund Removal Procedures: Guidance on the Consideration of ARARs During Removal Actions," OSWER Directive No. 9360.3-02, August 1991). Respondent shall identify ARARs in the work plan subject to IDNR approval.

L. Emergency Response and Notification of Releases

- 73) If any incident, or change in site conditions, during the actions conducted pursuant to this Order causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, the Respondent shall immediately take all appropriate action. The Respondent shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to the Health and Safety Plan, in order to prevent, abate or minimize such release or

endangerment caused or threatened by the release. Respondent shall also immediately notify the IDNR OSC and EPA RPM or, in the event of their unavailability, shall notify the appropriate corresponding agency:

Regional Duty Officer  
c/o Emergency Response and Removal Branch  
US Environmental Protection Agency, Region VII  
901 North 5<sup>th</sup> Street  
Kansas City, KS 66101  
913-281-0991 (24-hour number)

and

IDNR Duty Officer  
Emergency Response Unit  
Iowa Department of Natural Resources  
Wallace Building  
502 East Ninth Street,  
Des Moines, Iowa 50319-0034  
(515) 281-8694 (24-hour number)

of the incident or site conditions. If Respondent fails to respond, EPA may respond to the release or endangerment and reserves the right to pursue cost recovery.

- 74) In addition, in the event of any release of a hazardous substance from the Site, Respondent shall immediately notify the National Response Center at telephone number (800) 424-8802. Respondent shall submit a written report to EPA and IDNR within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, not in lieu of, reporting under CERCLA section 103(c) and section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. Sections 11001 et seq.

#### **VIII. AUTHORITY OF THE EPA AND IDNR ON-SCENE COORDINATORS**

- 75) The IDNR OSC and EPA RPM shall be responsible for overseeing the Respondent's implementation of this Order. The IDNR OSC and EPA RPM shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any work required by this Order, or to direct any other removal action undertaken at the Site. Absence of the OSC or RPM from the Site shall not be cause for stoppage of work unless specifically directed by the OSC or RPM.

## **IX. REIMBURSEMENT OF COSTS**

### **A. Reimbursement of Past Costs**

- 76) Within thirty (30) days after the Effective Date of the Order, Respondent shall pay a first installment of \$54,217.50 and within one hundred and twenty (120) days after the Effective Date of this Order, Respondent shall pay the remaining balance of \$54,217.50 in the manner detailed below, for reimbursement of Past Response Costs paid by the United States. In addition, Respondent shall reimburse EPA for all Future Response Costs, not inconsistent with the NCP, incurred by the United States.

### **B. Reimbursement of Future Costs**

- 77) On a periodic basis, EPA shall submit to Respondent a bill for Future Response Costs that includes a SCORES Report (a report itemizing EPA direct and indirect costs). EPA will send the original bill to the Respondent's Project Coordinator and a copy of the bill to:

Bruce C. Amig  
c/o Delavan, Inc.  
Four Coliseum Centre  
2730 West Tyvola Road  
Charlotte, North Carolina 28217-4578

- 78) Respondent shall, within thirty (30) days of receipt of the bill from EPA, remit a cashier's or certified check for the amount of the bill made payable to the "Hazardous Substance Superfund," to the following address:

Mellon Bank, EPA Region VII Superfund  
FNMG Section  
P.O. Box 360748M  
Pittsburgh, Pennsylvania 15251

- 79) Respondent shall simultaneously transmit a copy of the check to the EPA RPM at U.S. Environmental Protection Agency, Region VII, 901 North 5<sup>th</sup> Street, Kansas City, Kansas 66101. Payments shall be designated as "Response Costs -Railroad Avenue Superfund Site-Southern Plume" and shall reference the payor's name and address, the EPA site identification number (A710), and the docket number of this Order.
- 80) In the event that the payment for Past Response Costs is not made within thirty (30) days of the Effective Date of this Order or the payments for Future Response Costs are not made within thirty (30) days of the Respondent's receipt of the bill, Respondent shall pay interest on the unpaid balance. Interest is established at the rate specified in section 107(a) of CERCLA. The interest to be paid on Past Response Costs shall begin to accrue on the



Effective Date of the Order. The interest on Future Response costs shall begin to accrue on the date of the Respondent's receipt of the bill. Interest shall accrue at the rate specified through the date of the payment. Payments of interest made under this paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section.

- 81) Respondent may dispute all or part of a bill for Future Response Costs submitted under this Order. Respondent agrees to limit any disputes concerning costs to accounting errors and the inclusion of costs outside the scope of this Consent Order. Respondent shall identify any contested costs and the basis of its objection.
- 82) If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent shall pay the full amount of the uncontested costs into the Hazardous Substance Fund as specified above on or before the due date. Within the same time period, Respondent shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondent shall simultaneously transmit a copy of both checks to the EPA RPM. Respondent shall ensure that the prevailing party in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within ten (10) days after the dispute is resolved.

#### **X. DISPUTE RESOLUTION**

- 83) The parties to this Order shall attempt to resolve, expeditiously and informally, any disagreements concerning this Order.
- 84) If the Respondent objects to any EPA or IDNR action taken pursuant to this Order, including billings for Future Response Costs by EPA, the Respondent shall notify EPA in writing of its objection(s) within twenty (20) days of such action, unless the objection(s) (has/have) been informally resolved.
- 85) Such notice shall set forth the specific points of the dispute, the position Respondent maintains should be adopted as consistent with the requirements of this Order, the factual and legal basis for the Respondent's position, and all matters the respondent considers necessary for the EPA's determination. EPA and Respondent shall then have fourteen (14) working days from EPA's receipt of Respondent's objections to attempt to resolve the dispute. If agreement is reached, the resolution shall be reduced to writing, signed by each party, and incorporated into this Order. If the parties are unable to reach agreement within this fourteen (14) working day period, the matter shall be referred to the Regional Judicial Officer. EPA shall provide notice in writing of its position, including the position EPA maintains should be adopted as consistent with the requirements of this Order, the factual and legal basis for Respondent's position, and all matters EPA considers necessary for the

Regional Judicial Officer's determination. Respondent may reply to the EPA's notice of its position. EPA may, but shall not be required to, give notice, as described above, if it has already provided written notice, if it has already provided written reasons, or already provided a written explanation pursuant to a notice of disapproval of a plan, report or other item.

- 86) The Regional Judicial Officer shall then decide the matter, consistent with the NCP and the terms of this Order, on the basis of those written materials described in this Section, and any meeting held with Respondent and EPA. The Regional Judicial Officer will then provide a written statement of his/her decision to both parties to the dispute, which shall be incorporated into this Order, provided that incorporation of the Judicial Officer's decision into the Order shall not deprive Respondent of the right to contest the validity of the Regional Judicial Officer's decision in any judicial action taken by the EPA to enforce this Order, or the terms thereof, as provided by Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).
- 87) All materials submitted pursuant to this Section, shall be kept as part of any Administrative Record made pursuant to 40 C.F.R. §§ 300.415 and 300.820 for any response action resulting for this Site.
- 88) Notwithstanding any other provisions of this Order, no action or decision by EPA, including without limitation, decisions of the Regional Judicial Officer pursuant to this Order, shall constitute final EPA action giving rise to any rights to judicial review prior to EPA's initiation of judicial action to compel Respondent's compliance with the requirements of this Order.

#### **XI. FORCE MAJEURE**

- 89) Respondent agrees to perform all requirements under this Order within the time limits established under this Order, unless the performance is delayed by a force majeure. For purposes of this Order, a force majeure is defined as any event arising from causes beyond the control of Respondent or of any entity controlled by Respondent, including but not limited to its contractors and subcontractors, that delays or prevents performance of any obligation under this Order despite Respondent's best efforts to fulfill the obligation. Force majeure does not include financial inability to complete the Work or increased cost of performance.
- 90) Respondent shall notify EPA and IDNR orally within forty-eight (48) hours after the event, and in writing within ten (10) days after Respondent becomes or should have become aware of events which constitute a force majeure. Such notice shall: identify the event causing the delay or anticipated delay; estimate the anticipated length of delay, including necessary demobilization and re-mobilization; state the measures taken or to be

taken to minimize the delay; and estimate the timetable for implementation of the measures. Respondent shall take all reasonable measures to avoid and minimize the delay. Failure to comply with the notice provision of this section shall waive any claim of force majeure by the Respondent.

- 91) If EPA determines a delay in performance of a requirement under this Order is or was attributable to a force majeure, the time period for performance of that requirement shall be extended as deemed necessary by EPA. Such an extension shall not alter Respondent's obligation to perform or complete other tasks required by the Order which are not directly affected by the force majeure.

## **XII. STIPULATED AND STATUTORY PENALTIES**

- 92) For each day, or portion thereof, that Respondent fails to provide major deliverables, i.e. the Removal Site Evaluation Memorandum, the Removal or Remedial Investigation/Feasibility Study Work Plans, Draft Remedial Investigation Report, Draft Feasibility Study Report in accordance with the schedules established pursuant to this Order, Respondent shall be liable as follows:
- (1) \$250 per day for the first through seventh day of noncompliance; and
  - (2) \$500 per day for the eight through the fourteenth day of noncompliance; and
  - (3) \$1,000 per day for the fifteenth through the thirtieth day of noncompliance; and
  - (4) \$2,000 per day for the thirty-first day and each succeeding day of noncompliance thereafter.
- 93) For each day, or portion thereof, that Respondent fails to provide lesser documents, for example memoranda, reports and work plans, in accordance with the schedules established pursuant to this Order, Respondent shall be liable as follows:
- (1) \$200 per day for the first through seventh day of noncompliance; and
  - (2) \$400 per day for the eight through the fourteenth day of noncompliance; and
  - (3) \$800 per day for the fifteenth through the thirtieth day of noncompliance; and
  - (4) \$1,600 per day for the thirty-first day and each succeeding day of noncompliance thereafter.
- 94) For each day, or portion thereof, that Respondent fails to perform or provide actions or deliverables, not described in the above two preceding paragraphs, in accordance with the schedules established pursuant to this Order, Respondent shall be liable as follows:
- (1) \$100 per day for the first through seventh day of noncompliance; and
  - (2) \$200 per day for the eighth through the fourteenth day of noncompliance; and
  - (3) \$400 per day for the fifteenth through the thirtieth day of noncompliance; and
  - (4) \$800 per day for the thirty-first day and each succeeding day of noncompliance

thereafter.

- 95) Upon receipt of written demand by EPA, Respondent shall make payment to EPA within sixty (60) days. Interest shall accrue on late payments as of the date the payment is due.
- 96) Even if violations are simultaneous, separate penalties shall accrue for separate violations of this Order. Penalties accrue and are assessed per violation per day. Penalties shall accrue regardless of whether EPA has notified Respondent of a violation or act of noncompliance. The payment of penalties shall not alter in any way Respondent's obligation(s) to complete the performance of the Work required under this Order.
- 97) Violation of this Order may subject Respondent to civil penalties of up to twenty-seven thousand five hundred dollars (\$27,500) per violation per day, as provided in section 106(b)(1) of CERCLA, 42 U.S.C. section 9606(b)(1). Respondent may also be subject to punitive damages in an amount up to three times the amount of any cost incurred by the United States as a result of such violation, as provided in section 107(c)(3) of CERCLA, 42 U.S.C. Section 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to these authorities for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of this Order. In the case of a willful violation of this Order, EPA shall elect between seeking stipulated or statutory penalties. Should Respondent violate this Order or any portion hereof, EPA may carry out the required actions unilaterally, pursuant to section 104 of CERCLA, 42 U.S.C. Section 9604, and/or may seek judicial enforcement of this Order pursuant to section 106 of CERCLA, 42 U.S.C. Section 9606.
- 98) Respondent may dispute whether penalties are due by invoking the dispute resolution procedures under the terms of this Order. Stipulated penalties continue to accrue during dispute resolution but need not be paid until the dispute resolution process, as described in this Order, is completed. In that event, any penalty that is determined by the Regional Judicial Officer to be owed by the Respondent shall be due within sixty (60) days of receipt by Respondent, as indicated by the date on the certified mail receipt, of the final dispute resolution decision. The Regional Judicial Officer shall have the discretion to reduce any amount of stipulated penalties, initially demanded by EPA, as indicated in his/her decision.
- 99) EPA will consider any good faith efforts by Respondent to comply with such deadlines in making any such demand for stipulated penalties.

### **XIII. RESERVATION OF RIGHTS**

- 100) Except as specifically provided in this Order, nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to

protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring the Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law. EPA reserves the right to bring an action against Respondent under section 107 of CERCLA, 42 U.S.C. section 9607, for recovery of any response costs incurred by the United States related to this Order or the Site and not reimbursed by Respondent.

- 101) EPA hereby expressly reserves all rights and defenses that it may have, including, but not limited to, its rights to disapprove of work performed by Respondent and to require that Respondent perform tasks in addition to those stated in this Order. However, nothing in this paragraph shall be construed as expanding the scope of this Order as to Respondent.
- 102) Compliance by Respondent with the terms of this Order shall not relieve Respondent of its obligations to comply with CERCLA, RCRA or any other applicable local, state, or federal laws and regulations.
- 103) In the event EPA determines that Respondent has ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portions of the Work as EPA deems necessary. Respondent may invoke the procedures set forth in Section X (Dispute Resolution) to dispute EPA's determination that take over of the Work is warranted under this paragraph.
- 104) This Order does not waive any claims or rights for natural resource damage that may be asserted against Respondent by the Natural Resource Trustee. Such natural resource damage claims are expressly reserved and can only be waived by the Natural Resource Trustee.
- 105) The parties to this Order hereby expressly reserve all rights, claims, demands, and causes of action they may have against any and all other persons and entities who are not parties to this agreement.
- 106) Respondent specifically denies the findings of fact, and conclusions of law set forth herein. Neither this Order, nor any part thereof, nor any entry into or performance under this Order, shall constitute or be construed as an admission or acknowledgment of liability in any subsequent judicial action.
- 107) The terms of this Order shall not be admissible in any judicial or administrative

proceeding, except by the parties to the Order to enforce its terms, or by the Respondent to defend against any proceeding or claim asserted by a third party.

#### **XIV. OTHER CLAIMS**

- 108) By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or EPA shall not be deemed a party to any contract entered into by the Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.
- 109) Except as expressly provided in Section XV- Covenant Not To Sue, nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against the Respondent or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or the common law, including but not limited to any claims of the United States for costs, damages and interest under sections 106(a) and 107(a) of CERCLA, 42 U.S.C. Sections 9606(a) and 9607(a).
- 110) This Order does not constitute a preauthorization of funds under section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2). The Respondent waives any claim to payment under sections 106(b), 111, and 112 of CERCLA, 42 U.S.C. §§ 9606(b), 9611, and 9612, against the United States or the Hazardous Substance Superfund arising out of any action performed under this Order.
- 111) No action or decision by EPA pursuant to this Order shall give rise to any right to judicial review except as set forth in section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

#### **XV. COVENANT NOT TO SUE**

- 112) In consideration of the Work that will be performed and the payments that will be made by the Respondent under the terms of this Order, and except as specifically reserved in Section XIII (Reservation of Rights) of this Order, the EPA covenants not to sue and agrees not to assert any claims or causes of action or take administrative action against Respondent, and any successor that complies with this Order pursuant to Paragraph 5, for Matters Addressed pursuant to Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606-9607 and Section 7003 of RCRA, 42 U.S.C. § 6973. The EPA's covenants shall take effect with respect to Respondent upon EPA's issuance of a notice of completion pursuant to Section XXII of this Order. EPA's covenants in this Section extend only to Respondent and do not extend to any other persons.

#### **XVI. CONTRIBUTION PROTECTION**

- 113) With regard to claims for contribution against Respondent for Matters Addressed in this

Order, the Parties hereto agree that the Respondent is entitled to protection from contribution actions or claims to the extent provided by section 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. Sections 9613(f)(2) and 9622(h)(4).

- 114) Nothing in this Order precludes the United States or the Respondent from asserting any claims, causes of action or demands against any persons not parties to this Order for indemnification, contribution, or cost recovery.

#### **XVII. INDEMNIFICATION**

- 115) Respondent agrees to indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action: (A) arising from, or on account of, negligent or wrongful acts or omissions of Respondent, Respondent's officers, directors, employees, agents, contractors, subcontractors, receivers, trustees, successors or assigns, in carrying out actions pursuant to this Order; and (B) for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Respondent, and any persons for performance of work on or relating to the Site, including claims on account of construction delays. In addition, Respondent agrees to pay the United States all costs incurred by the United States, including litigation costs arising from or on account of claims made against the United States based on any of the acts or omissions referred to in this paragraph.
- 116) Respondent waives all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

#### **XVIII. INSURANCE**

- 117) At least seven (7) days prior to commencing any on-site work under this Order, the Respondent shall secure, and shall maintain for the duration of this Order, comprehensive general liability insurance and automobile insurance with limits of two million dollars (\$2,000,000), combined single limit. Within the same time period, the Respondent shall provide EPA with certificates of such insurance and a copy of each insurance policy. If the Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then the Respondent need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

## **XIX. FINANCIAL ASSURANCE**

- 118) Within thirty (30) days after the Effective Date of this Order and thereafter until notice of completion of work under Section XXII, the Respondent shall demonstrate to EPA that it meets one of the financial assurance mechanisms specified in 40 CFR section 264.143 for the sufficient estimated costs of work to be performed by the Respondent under this Order.

## **XX. MODIFICATIONS**

- 119) Modifications to any plan or schedule or Statement of Work may be made in writing by the IDNR OSC or EPA RPM or at their oral direction. If the EPA RPM or IDNR OSC make an oral modification, it will be memorialized in writing within ten (10) days; provided, however, that the Effective Date of the modification shall be the date of the oral direction. Any other requirements of the Order may be modified in writing by mutual agreement of the parties.
- 120) If Respondent seeks permission to deviate from any approved work plan or schedule or Statement of Work, Respondent's Project Coordinator shall submit a written request to EPA and IDNR for approval outlining the proposed work plan modification and its basis.
- 121) No informal advice, guidance, suggestion, or comment by EPA or IDNR regarding reports, plans, specifications, schedules, or any other writing submitted by the Respondent shall relieve the Respondent of its obligation(s) to obtain such formal approval as may be required by this Order, and to comply with all requirements of this Order unless it is formally modified.
- 122) EPA may determine that in addition to tasks defined in the initially approved work plans, other additional work may be necessary to accomplish the objectives of this Order as set forth in the Statement of Work for Work. EPA may require that the Respondent perform these response actions in addition to those required by the initially approved work plan, including any approved modifications, if it determines that such actions are necessary for a completion of the Work. Respondent shall confirm its willingness to perform the additional work in writing to EPA within fifteen (15) business days of receipt of the EPA request or Respondent shall invoke dispute resolution. Subject to the resolution of any dispute, Respondent shall implement the additional tasks which EPA determines are necessary. The additional work shall be completed according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the work plan or written work plan supplement. EPA reserves the right to conduct the Work itself at any point, to seek reimbursement from Respondent, and/or to seek any other appropriate relief.



## **XXI. ADDITIONAL REMOVAL ACTION**

- 123) If EPA determines that additional removal actions not included in an approved plan are necessary to protect public health, welfare, or the environment, EPA will notify Respondent of that determination. Unless otherwise stated by EPA, within sixty (60) days of receipt of notice from EPA that additional removal actions are necessary to protect public health, welfare, or the environment, Respondent shall submit for approval by EPA a work plan for the additional removal actions. The plan shall conform to the applicable requirements of this Order. Upon EPA's approval of the plan pursuant to Section VII.I. (Agency Review and Approval), Respondent shall implement the plan for additional removal actions in accordance with the provisions and schedule contained therein. This section does not alter or diminish the OSC's authority to make oral modifications to any plan or schedule pursuant to Section XX - Modifications.

## **XXII. NOTICE OF COMPLETION**

- 124) When EPA determines, after IDNR's review of the Final Report for the Removal Action, that all removal actions have been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including Record Retention, Reimbursement of Costs, and Indemnification, EPA will provide notice to the Respondent. If EPA determines that any removal actions have not been completed in accordance with this Order, EPA will notify the Respondent, provide a list of the deficiencies, and require that Respondent modify the work plan if appropriate in order to correct such deficiencies. The Respondent shall implement the modified and approved work plan and shall submit a modified Final Report in accordance with the EPA notice. Failure by Respondent to implement the approved modified work plan shall be a violation of this Order.

## **XXIII. FINAL RI/FS, PROPOSED PLAN, PUBLIC COMMENT, RECORD OF DECISION, ADMINISTRATIVE RECORD**

- 125) EPA retains the responsibility for the release to the public of the RI/FS report. EPA retains the responsibility for the preparation and release to the public of the proposed plan and record of decision in accordance with CERCLA and the NCP.
- 126) EPA shall provide Respondent with the final RI/FS report, proposed plan and record of decision.
- 127) Respondent shall submit to EPA for inclusion in the administrative record all final documents developed during the course of the RI/FS upon which selection of the response action may be based. Respondent shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Respondent shall additionally submit any previous

studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondent and state, local or other federal authorities concerning selection of the response action. At EPA's discretion, Respondent may establish a community information repository at or near the site, to house one copy of the administrative record.

#### XXIV. SEVERABILITY

- 128) If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

#### XXV. EFFECTIVE DATE

- 129) This Order may be executed in any number of counterparts, each of which when executed and delivered to EPA shall be deemed to be an original, but such counterparts shall together constitute one and the same document.
- 130) This Order shall be effective upon the date that EPA enters the Order as signified by the date that the Order is file-stamped on the first page of the Order.

The undersigned representative of Respondent certifies that it is fully authorized to enter into the terms and conditions of this Order and to bind the party it represents to this document.

Agreed this 12 day of May, 2003.

For Delevan, Inc.

By James R Baker

James R. Baker  
(Printed)

Title President

**For the United States Environmental Protection Agency:**

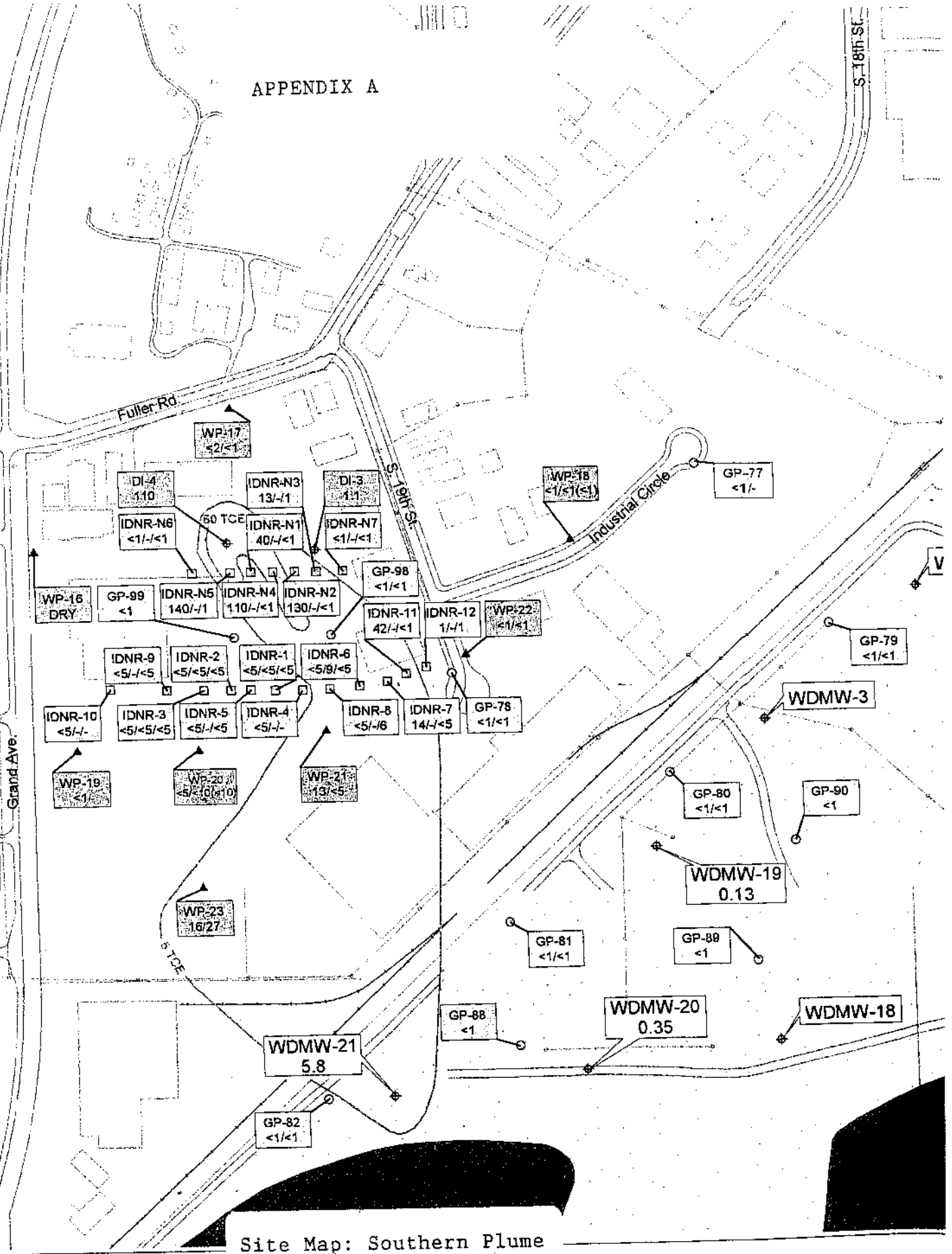
It is so ORDERED and Agreed this 28 day of May, 2003.

BY: Andrea Jirka  
Andrea Jirka  
Acting Director  
Superfund Division  
Region VII  
United States Environmental Protection Agency

By: J. Daniel Breedlove  
J. Daniel Breedlove  
Assistant Regional Counsel  
Region VII  
United States Environmental Protection Agency

Date: 5/22/03

# APPENDIX A



Site Map: Southern Plume  
Railroad Avenue Super-  
fund Site

ATTACHMENT  
REMOVAL ACTION AND RI/FS STATEMENT OF WORK  
Railroad Avenue Superfund Site- Southern Plume

This statement of work ("SOW") outlines the activities to be conducted by the Respondent to this Order for the completion of a Removal Site Evaluation Memorandum, Removal Action, and RI/FS for the Railroad Avenue Superfund Site- Southern Plume, West Des Moines, Iowa. The Respondent shall conduct the project tasks and submit deliverables specified below in accordance with the time frames specified in Section VII of the Order or within this SOW.

Removal Site Evaluation Memorandum

Respondent shall prepare a Removal Site Evaluation Memorandum describing all pertinent information associated with the investigations of the Southern Plume of the Railroad Avenue Superfund Site. The memorandum shall include a brief description of the investigations performed, a discussion of any deviations from EPA quality assurance and quality control protocols and an assessment of the quality of the data collected, and a summary of the results of any investigations performed to date. The memorandum will identify all threats to human health, welfare, or the environment posed by the release of hazardous substances, pollutants, or contaminants at the Site, identify the potential human and environmental receptors, and propose actions to abate, prevent, minimize, stabilize, mitigate, or eliminate the threat. The Removal Site Evaluation shall contain the information necessary for EPA to issue, if necessary, a decision document determining that a time-critical removal action is appropriate at the Site.

After the completion and approval of the Removal Site Evaluation Memorandum, EPA will be responsible for the selection of a time-critical removal action after considering the factors listed in 40 C.F.R. § 300.415(b). EPA will document selection in an Action Memorandum. The final Removal Site Evaluation Memorandum, as adopted by EPA, will, with the administrative record, form the basis for the selection of the site's time-critical removal action and will provide information necessary to support EPA's determination.

Time Critical Removal Actions

Respondent shall undertake the time-critical removal action(s) selected by EPA from the options proposed and substantiated by Respondent in the Removal Site Evaluation Memorandum. If such an action is appropriate, the action shall abate, prevent, minimize, stabilize, mitigate, or eliminate the threat to human health, welfare, or the environment.

A Health and Safety Plan (HSP) shall be prepared to provide for the protection of site workers, visitors, and citizens at or near the site and other areas where activities related to the time-critical removal actions take place. The HSP shall be consistent with the requirement of 29 C.F.R. 1910.120.

#### Remedial Investigation/Feasibility Study

The purpose of this remedial investigation/feasibility study (RI/FS) is to investigate the nature and extent of contamination at the site, assess the potential risk to human health and the environment, and develop and evaluate potential remedial alternatives. The RI and FS are interactive and may be conducted concurrently so that the data collected in the RI influences the development of remedial alternatives in the FS, which in turn affects the data needs and the scope of treatability studies.

The respondent will conduct this RI/FS and will produce a Remedial Investigation Report and RI/FS Report that are in accordance with this statement of work, the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (U.S. EPA, Office of Emergency and Remedial Response, October 1988), and any other guidances that EPA uses in conducting a RI/FS (a list of the primary guidances is attached), as well as any additional requirements in the administrative order. The RI/FS Guidance describes the report format and the required report content. The respondent will furnish all necessary personnel, materials, and services needed, or incidental to, performing the RI/FS, except as otherwise specified in the administrative order.

At the completion of the RI/FS, EPA will be responsible for the selection of a site remedy and will document this selection in a Record of Decision (ROD). The remedial action alternative selected by EPA will meet the cleanup standards specified in CERCLA Section 121. That is, the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of other laws, will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element. The final RI/FS report, as adopted by EPA, will, with the administrative record, form the basis for the selection of the site's remedy and will provide information necessary to support the development of the ROD.

As specified in CERCLA Section 104(a) (1), as amended by SARA, EPA and/or IDNR will provide oversight of the respondent's activities throughout the RI/FS. The respondent will support EPA's initiation and conduct of activities related to the implementation of oversight activities.

## PROJECT TASKS

### I. SCOPING

Scoping activities shall be conducted for the purpose of planning the RI/FS. The purpose of the RI is to characterize the nature and extent of contamination of the surface and subsurface soils and ground water at the Southern Plume of the Railroad Avenue Superfund Site and to assess the human health risks which may be posed by the contamination. The purpose of the FS is to define remedial action objectives and evaluate remedial alternatives to address the contamination identified in previous investigations and as defined in the RI. Respondent is encouraged to utilize existing information to the extent possible in scoping and completing the RI/FS for the site.

The respondent shall prepare a work plan describing the Respondent's approach for completing the activities described in tasks I-VI in Section VII.C. (Work to be performed: Remedial Investigation/Feasibility Study (RI/FS) Activities) of the Order. The "Railroad Avenue Superfund Site- Southern Plume RI/FS Work Plan" shall include the following components:

#### 1. Sampling and Analysis Plan (SAP)

The SAP shall set forth the proposed sampling strategy to adequately characterize the nature and extent of the site ground water contamination. The SAP shall discuss the objectives of the planned sampling activities, sampling locations, sampling equipment and procedures, chain of custody procedures, quality assurance measures, and decontamination procedures. The SAP shall be prepared in accordance with current EPA guidance, and shall include the two components described below.

#### 2. Field Sampling Plan

The Field Sampling Plan (FSP) shall describe the field activities necessary to obtain the required data. The FSP shall include, but not limited to, the site background information, sampling rationale and objectives, sampling locations, sample identification and documentation procedures, sampling equipment and procedures, decontamination procedures and sample handling, packaging, and analysis.

#### 3. Quality Assurance Project Plan

The Quality Assurance Project Plan (QAPP) shall present the project organization and responsibilities, the data quality objectives for measurement, sampling procedures and quality control measures, sample custody, analytical methods with detection limits/quantitation limits, data validation and reporting, and other applicable items specified in current EPA Guidance.

#### 4. Health and Safety Plan

A Health and Safety Plan (HSP) shall be prepared to provide for the protection of site workers, visitors, and citizens at or near the site and other areas where activities related to the RI take place. The HSP shall be consistent with the requirement of 29 C.F.R. 1910.120. The HSP generated for the Time Critical Removal Action may be used to fulfill this requirement if site conditions and health and safety issues are reasonably similar to the conditions identified during the Time Critical Removal Action. If site conditions have significantly changed then the HSP may be adapted to address these changes.

#### 5. Investigative-Derived Waste Plan

An Investigative-Derived Waste Plan (IDWP) shall describe the procedures for the characterization and disposal of waste materials resulting from the investigation activities at the site. The IDWP shall be prepared in accordance with current EPA Guidance.

#### 6. Project Schedule

The schedule shall contain the anticipated time frames for conducting all of the activities in the site RI/FS Work Plan, and shall reflect the time frames set forth in Section VII of the Order.

#### 7. Modeling of Site Characteristics

Where Respondent proposes that groundwater modeling is appropriate, the RI/FS Work Plan will address modeling of site characteristics.

### II. SITE CHARACTERIZATION

The respondent shall characterize the nature and extent of ground water contamination. Characterization efforts shall include, but not be limited to, the installation of new groundwater monitoring wells, the collection and analysis of ground water samples from new and existing wells, ground water modeling to determine plume contours, and performance of an aquifer restoration time frame analysis. Soil sampling will be necessary to determine if soil contamination continues to be a source for the ground water contamination. Field screening methods may be used in combination with offsite laboratory methods in characterizing the ground water of the site. All samples shall be analyzed for volatile organic compounds and any other parameter respondent believes necessary to adequately characterize the ground water contamination.

Following completion of all field work and receipt of all resulting analytical data, respondent shall submit to IDNR for review and approval a "Remedial Investigation Report" in accordance with the time frame set forth in the Order. This report shall include, but not be



limited to, a description of the field activities conducted, maps or drawing showing the location of all sampling points, and a summary of the analytical results. All analytical data results and reports shall be included as an appendix to the report.

### III. RISK ASSESSMENT

Respondent and IDNR shall conduct a risk assessment to reflect data collected during the characterization of the site. Respondent and IDNR shall characterize the carcinogenic risks and the noncarcinogenic hazards posed by current site conditions for the potential receptors and exposure pathways associated with the source area as previously identified. EPA shall have an opportunity to review and comment on the risk assessment prepared by IDNR.

### IV. REMEDIAL INVESTIGATION REPORT

Respondent shall prepare and submit to IDNR for review and approval a Draft RI Report, summarizing the characterization activities and associated results. The RI Report shall be written in accordance with current EPA Guidance documents. The report shall contain information including, but not limited to, site location and physical description, history of previous investigations, descriptions of activities performed during the RI, summary of the analytical results, results of ground water modeling efforts, an analysis of aquifer restoration time frames for various remedial strategies, and an evaluation of data results and conclusions regarding the extent of contamination.

### V. TREATABILITY STUDIES

Treatability testing will be performed, if deemed necessary by IDNR or EPA, by the respondent to assist in detailed analysis of alternatives. In addition, if applicable, testing results and operating conditions will be used in the design of the selected remedial technology. The following activities will be performed by the respondent.

#### A. Identification of Candidate Technologies Memorandum

The respondent will identify in RI/FS Work Plan, subject to IDNR review and approval, candidate technologies for a treatability studies program during project scope planning (Task I). The listing of candidate technologies will cover the range of technologies required for alternatives analysis (Task V). The specific data requirements for the testing program will be determined and refined during site characterization and the development and screening of remedial alternatives (Tasks III and V, respectively).

The respondent will conduct a literature survey to gather information on performance, relative costs, applicability, removal efficiencies, operation and maintenance (O&M) requirements, and implementability of candidate technologies. If practical candidate technologies have not been sufficiently demonstrated, or cannot be adequately evaluated for this site on the basis of available information, treatability testing will be conducted.

#### B. Treatability Testing Statement of Work

Where it is determined by IDNR that treatability testing is required, and unless the respondent can demonstrate to IDNR's satisfaction that they are not needed, the respondent will submit a statement of work to IDNR outlining the steps and data necessary to evaluate and initiate the treatability testing program. This treatability statement of work may be submitted in the RI/FS Work Plan.

Once a decision has been made to perform treatability studies, the respondent and IDNR will decide on the type of treatability testing to use (e.g., bench versus pilot). Because of the time required to design, fabricate, and install pilot scale equipment as well as perform testing for various operating conditions, the decision to perform pilot testing should be made as early in the process as possible to minimize potential delays of the FS. To assure that a treatability testing program is completed on time, and with accurate results, the respondent will either submit a separate treatability testing work plan or an amendment to the RI/FS Work Plan for IDNR review and approval.

The deliverables that are required, in addition to the memorandum identifying candidate technologies, where treatability testing is conducted include a treatability work plan, a treatability sampling and analysis plan, and a final treatability study evaluation report. IDNR may also require a treatability study health and safety plan, where appropriate.

#### C. Treatability Testing Work Plan

The respondent will prepare a treatability testing work plan or amendment to the original site work plan for IDNR review and approval describing the site background, remedial technology(ies) to be tested, test objectives, experimental procedures, treatability conditions to be tested, measurements of performance, analytical methods, data management and analysis, health and safety, and residual waste management. The DQOs for treatability testing should be documented as well. If pilot-scale treatability testing is to be performed, the pilot-scale work plan will describe pilot plant installation and start-up, pilot plant operation and maintenance procedures, operating conditions to be tested, a sampling plan to determine pilot plant performance, and a detailed health and safety plan. If testing is to be performed off-site, permitting requirements will be addressed.

#### D. Treatability Study Sampling and Analysis Plan

If the original QAPP or FSP is not adequate for defining the activities to be performed during the treatability tests, a separate treatability study SAP or amendment to the original site SAP will be prepared by the respondent for IDNR review and approval. Task I, Item A. of this statement of work provides additional information on the requirements of the SAP.

#### E. Treatability Study Health and Safety Plan

If the original health and safety plan is not adequate for defining the activities to be performed during the treatment tests, a separate or amended health and safety plan will be developed by the respondent. Task I, Item B. of this statement of work provides additional information on the requirements of the health and safety plan. EPA and IDNR do not "approve" the treatability study health and safety plan.

#### F. Treatability Study Evaluation Report

Upon completion of treatability testing, the respondent will assemble and interpret the testing results in a technical report to IDNR. The report will evaluate each technology's effectiveness, implementability, cost and actual results as compared with predicted results. The report will also evaluate full-scale application of the technology, including a sensitivity analysis identifying the key parameters affecting full-scale operation.

### VI. DEVELOPMENT AND SCREENING OF REMEDIAL ALTERNATIVES

The development and screening of remedial alternatives is performed to develop an appropriate range of waste management options that will be evaluated. This range of alternatives should include as appropriate, options in which treatment is used to reduce the toxicity, mobility, or volume of wastes, but varying in the types of treatment, the amount treated, and the manner in which long-term residuals or untreated wastes are managed; options involving containment with little or no treatment; options involving both treatment and containment; and a no-action alternative. The following activities will be performed by the respondent as a function of the development and screening of remedial alternatives.

#### A. Development and Screening of Remedial Alternatives

The respondent will begin to develop and evaluate a range of appropriate waste management options that at a minimum ensure protection of human health and the environment, concurrent with the RI site characterization task.

##### Refine and document remedial action objectives

The respondent will propose remedial action objectives. The remedial action objectives will be

documented in a technical memorandum. These objectives will specify the contaminants and media of interest, exposure pathways and receptors, and an acceptable contaminant level or range of levels (at particular locations for each exposure route).

#### Develop general response actions

The Respondent will develop general response actions for each alternative by defining containment, treatment, pumping, or other actions, singly or in combination, to satisfy the remedial action objectives.

#### Identify areas or volumes of media

The respondent will identify areas or volumes of media to which general response actions may apply, taking into account requirements for protectiveness as identified in the remedial action objectives. The chemical and physical characterization of the site will also be taken into account.

#### Identify, screen, and document remedial technologies

The respondent will identify and evaluate technologies applicable to each general response action to eliminate those that cannot be implemented at the site. General response actions will be refined to specify remedial technology types. Technology process options for each of the technology types will be identified either concurrent with the identification of technology types, or following the screening of the considered technology types. Process options will be evaluated on the basis of effectiveness, implementability, and cost factors to select and retain one or, if necessary, more representative process for each technology type. The technology types and process options will be summarized for inclusion in a technical memorandum. The reasons for eliminating alternatives must be specified.

#### Assemble and document alternatives

The respondent will assemble selected representative technologies into alternatives for each affected medium or operable unit. Together, all of the alternatives will represent a range of treatment and containment combinations that will address the Southern Plume of the Railroad Avenue Superfund Site. A summary of the assembled alternatives and their related action-specific ARARs will be prepared by the respondent for inclusion in a technical memorandum. The reasons for eliminating alternatives during the preliminary screening process must be specified.

#### Refine alternatives

The respondent will refine the remedial alternatives to identify contaminant volume addressed by the proposed alternative and sizing of critical unit operations as necessary.

Information will be collected for an adequate assessment of alternatives. Remedial action objectives for the Southern Plume will also be refined as necessary to incorporate any new risk assessment information being generated from the remedial investigation. Additionally, action-specific ARARs will be updated as the remedial alternatives are refined.

#### Conduct and document screening evaluation of each alternative

The respondent may perform a final screening process based on short and long term aspects of effectiveness, implementability, and relative cost. Generally, this screening process is only necessary when there are many feasible alternatives available for detailed analysis. If necessary, the screening of alternatives will be conducted to assure that only the alternatives with the most favorable composite evaluation of all factors are retained for further analysis.

As appropriate, the screening will preserve the range of treatment and containment alternatives that was initially developed. The range of remaining alternatives will include options that use treatment technologies and permanent solutions to the maximum extent practicable. The respondent will prepare a technical memorandum summarizing the results and reasoning employed in screening, arraying alternatives that remain after screening, and identifying the action-specific ARARs for the alternatives that remain after screening.

#### B. Alternatives Development and Screening Deliverables

The respondent will prepare a technical memorandum summarizing the work performed in and the results of each task above, including an alternatives array summary. These will be modified by the respondent if required by IDNR's comments to assure identification of a complete and appropriate range of viable alternatives to be considered in the detailed analysis. This deliverable will document the methods, rationale, and results of the alternatives screening process.

Within two weeks of submitting the Memorandum on Remedial Action Objectives and the Development and Preliminary Screening of Alternatives, Respondent shall make a presentation to IDNR and EPA during which Respondent shall summarize the findings of the remedial investigation and remedial action objectives, and present the results of the nine criteria evaluation and comparative analysis. The decisions from this meeting will be recorded by Respondent.

### VII. DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES

The detailed analysis will be conducted by the respondent to provide EPA with the information needed to allow for the selection of a site remedy. This analysis is the final task to be conducted by the Respondent during the FS.

## A. Detailed Analysis of Alternatives

The respondent will conduct a detailed analysis of alternatives which will consist of an analysis of each option against a set of nine evaluation criteria and a comparative analysis of all options using the same evaluation criteria as a basis for comparison.

### Apply nine criteria and document analysis

The respondent will apply nine evaluation criteria to the assembled remedial alternatives to ensure that the selected remedial alternative will be protective of human health and the environment; will be in compliance with, or include a waiver of, ARARs; will be cost-effective; will utilize permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable; and will address the statutory preference for treatment as a principal element. The evaluation criteria include: (1) overall protection of human health and the environment; (2) compliance with ARARs; (3) long-term effectiveness and permanence; (4) reduction of toxicity, mobility, or volume; (5) short-term effectiveness; (6) implementability; (7) cost; (8) state (or support agency) acceptance; and (9) community acceptance. (Note: criteria 8 and 9 are considered after the RI/FS report has been released to the general public.) For each alternative, the respondent should provide: (1) a description of the alternative that outlines the waste management strategy involved and identifies the key ARARs associated with each alternative, and (2) a discussion of the individual criterion assessment. If the respondent does not have direct input on criteria (8) state (or support agency) acceptance and (9) community acceptance, these will be addressed by EPA.

### Compare alternatives against each other and document the comparison of alternatives

The respondent will perform a comparative analysis between the remedial alternatives. That is, each alternative will be compared against the others using the evaluation criteria as a basis of comparison. Identification and selection of the preferred alternative are reserved by EPA. The respondent will summarize the comparative analysis in the draft RI/FS report.

The respondent will submit a draft RI/FS report to IDNR for review and approval. Once IDNR's comments have been addressed by the respondent to IDNR's satisfaction, the final RI/FS report may be submitted.

This report, as ultimately adopted or amended by EPA, provides a basis for remedy selection by EPA and documents the development and analysis of remedial alternatives. The respondent will refer to the RI/FS Guidance for an outline of the report format and the required report content. The respondent will prepare a final RI/FS report which satisfactorily addresses IDNR's comments.

The report shall include, but not be limited to, a summary of the RI results and conclusions, a summary of human health risk and hazards, a discussion of ARARs, remedial

action objectives, a presentation of the array of remedial alternatives to be considered as agreed upon in the Presentation of Remedial Objectives and Development and Screening of Alternatives, and an evaluation of alternatives in accordance with the National Contingency Plan and applicable EPA guidance.

## IX. SCHEDULE

The following section defines the schedule for completion of the work to be performed under the AOC.

<u>List of Deliverables:</u>	<u>Due Date:</u> <u>Start date is date of Order</u>
RI/FS Work Plan	60 days
Sampling and Analysis Plan ( Includes QAPP & FSP)	60 days
Draft RI Report	On the schedule in approved RI/FS Work Plan
Identification of Candidate Technologies Memorandum	On the schedule in approved RI/FS Work Plan
Treatability Test Statement of Work (TTSOW)	75 days after identification of requirement
Treatability Test Work Plan	45 days after approval of TTSOW
Treatability Study Sampling and Analysis Plan	45 days after identification of need
Treatability Study Health and Safety Plan	45 days after identification of need
Treatability Study Evaluation Report	45 days after completion of Test.
Remedial Action Objectives Memorandum (RAOM)	45 days after approval of Risk Assessment
Presentation on Remedial Action Objectives and	2 weeks after submittal of RAOM

Draft RI/FS Report

45 days after presentation  
described in Paragraph 45)e.2  
of the Order.

Final RI/FS Report

60 days after receipt of IDNR  
comments on Draft RI/FS  
report